

**What is claimed is:**

1           1. A micro-dispenser for dispensing a predetermined  
2 amount of fluids under the control of a controller comprising:  
3           a base, having a plurality of holes, electrically  
4 connected to the controller; and  
5           an array of tube assemblies, filled with predetermined  
6 fluids, detachably disposed in the holes and separately  
7 electrically connected to the base, the tube assemblies  
8 dispensing the fluids under the control of the controller,  
9 wherein the tube assemblies are replaceable.

1           2. The micro-dispenser as claimed in claim 1, wherein  
2 the base is provided with at least one recess formed adjacent  
3 to each hole, and each of the tube assemblies is provided with  
4 at least one protrusion corresponding to the at least one  
5 recess for engaging with the base.

1           3. The micro-dispenser as claimed in claim 2, wherein  
2 the base is provided with a at least one first pad disposed  
3 in each of the holes separately, and each of the tube  
4 assemblies is provided with at least one second pad  
5 corresponding to the at least one first pad, wherein the  
6 second pads abut the first pads when the tube assemblies are  
7 inserted into the holes of the base.

1           4. The micro-dispenser as claimed in claim 3, wherein  
2 each of the tube assemblies further comprises:

3           a receptacle, provided with the protrusions formed  
4 thereon and the second pads disposed therein, having a  
5 passage;

6           a capillary tube, for retaining the fluid, disposed in  
7 the receptacle at one end of the passage; and

8           a print chip head, disposed in the receptacle at the

9 other end of the passage, abutting the second pads and  
10 communicating with the capillary tube.

1 5. The micro-dispenser as claimed in claim 1, wherein  
2 each of the tube assemblies is marked with a code indicating  
3 the type of fluid contained therein.

1 6. The micro-dispenser as claimed in claim 1, wherein  
2 the base is provided with a first detecting device for  
3 detecting the amount of the fluid.

1 7. The micro-dispenser as claimed in claim 1, wherein  
2 each of the tube assemblies is provided with a second  
3 detecting device for detecting the amount of fluid remaining  
4 therein.

1 8. The micro-dispenser as claimed in claim 1, wherein  
2 the tube assembly is pulse pressure ink-jet type.

1 9. The micro-dispenser as claimed in claim 1, wherein  
2 the tube assembly is bubble jet ink-jet type.

1 10. The micro-dispenser as claimed in claim 1, wherein  
2 the tube assembly is slit jet ink-jet type.

1 11. A dispensing device for a biochemical analysis  
2 comprising:

3 a controller; and

4 at least one micro-dispenser, for dispensing a  
5 predetermined amount of reagents to a substrate used in the  
6 biochemical analysis, electrically connected to the  
7 controller, wherein the micro-dispenser comprises:

8 a base, having a plurality of holes, electrically

9 connected to the controller; and

10 an array of tube assemblies, filled with predetermined  
11 reagents, detachably disposed in the holes and separately  
12 electrically connected to the base, the tube assemblies  
13 dispensing the reagents under the control of the controller  
14 when the base faces the substrate, wherein the tube assemblies  
15 are replaceable.

1 12. The dispensing device as claimed in claim 11, wherein  
2 the base is provided with at least one recess formed adjacent  
3 to each hole, and each of the tube assemblies is provided with  
4 at least one protrusion corresponding to the at least one  
5 recess for engaging with the base.

1 13. The dispensing device as claimed in claim 12, wherein  
2 the base is provided with at least one first pad disposed in  
3 each of the holes separately, and each of the tube assemblies  
4 is provided with at least one second pad corresponding to the  
5 at least one first pad, whereby the second pads abut the first  
6 pads when the tube assemblies are inserted into the holes of  
7 the base.

1 14. The dispensing device as claimed in claim 13, wherein  
2 each of the tube assemblies further comprises:

3 a receptacle, provided with the protrusions formed  
4 thereon and the second pads disposed therein, having a  
5 passage;

6 a capillary tube, for retaining the reagent, disposed  
7 in the receptacle at one end of the passage; and

8 a print chip head, disposed in the receptacle at the  
9 other end of the passage, abutting the second pads and  
10 communicating with the capillary tube.

1           15. The dispensing device as claimed in claim 11, wherein  
2 each of the tube assemblies is marked with a code for  
3 indicating the type of reagent contained therein.

1           16. The dispensing device as claimed in claim 11, wherein  
2 the base is provided with a first detecting device for  
3 detecting the amount of the reagent.

1           17. The dispensing device as claimed in claim 11, wherein  
2 each of the tube assemblies is provided with a second  
3 detecting device for detecting the amount of the reagent  
4 contained therein.

1           18. The dispensing device as claimed in claim 11, wherein  
2 the micro-dispenser is pulse pressure ink-jet type.

1           19. The dispensing device as claimed in claim 11, wherein  
2 the micro-dispenser is bubble jet ink-jet type.

1           20. The dispensing device as claimed in claim 11, wherein  
2 the micro-dispenser is slit jet ink-jet type.